WHAT IS CLAIMED IS:

1. A communication method for a retro-reflector device, the method comprising:

receiving, at the retro-reflector device, a first frame encoded in an input beam;

creating and sending, from the retro-reflector device, a second frame in a first reflected beam, the first reflected beam being formed by the retro-reflector device reflecting the input beam along a path closely aligned with a path of the input beam, wherein

at least one of the first frame and the second frame includes medium access control information.

2. The communication method of claim 1, further comprising:

receiving, at a plurality of retro-reflector devices, respective first frames encoded in respective input beams;

creating and sending, from the plurality of retro-reflector devices, respective second frames in respective first reflected beams formed by each of the plurality of retro-reflector devices reflecting the respective input beam along a path closely aligned with a respective path of the respective input beam, wherein

for each of the retro-reflector devices, at least one of the respective first frame and the respective second frame includes medium access control information.

3. The communication method of claim 1, further comprising:

receiving, at the retro-reflector device, a first frame including time information encoded in an input beam.

4. The communication method of claim 3, wherein:

the time information is schedule information including an indication of a next time when the retro-reflector device is to receive another frame, and the communication method further comprises:

receiving, at the retro-reflector device, the another frame encoded in an input beam at the next time, as indicated by the schedule information included in the first frame.

5. The communication method of claim 1, further comprising:

encoding and modulating message bits into the first frame.

6. The communication method of claim 1, further comprising:

including, in the first frame, an indication of a data rate for a message within one of the first frame and the second frame.

7. The communication method of claim 1, further comprising:

including, in the first frame, an indication of an amount of data for a message within one of the first frame and the second frame.

8. The communication method of claim 2, wherein at least one of the retro-reflector devices receives a respective plurality of input beams more frequently than at

least one other of the retro-reflector devices receives a respective plurality of input beams.

9. The communication method of claim 2, further comprising:

including, in at least some of the respective first frames, an indication of a data rate for a message within one of the at least some of the respective first frames and at least some of the respective second frames.

10. The communication method of claim 2, further comprising:

including, in at least some of the respective first frames, an indication of an amount of data for a message within one of the at least some of the respective first frames and at least some of the respective second frames.

11. The communication method of claim 9, wherein the indication of the data rate for one retro-reflector device is different than the indication of the respective data rate for another retro-reflector device.

12. The communication method of claim 2, wherein:

each of the first frames includes a first preamble and each of the second frames include a second preamble.

13. The communication method of claim 12, wherein:

the first preambles are different than the second preambles.

14. The communication method of claim 2, wherein:

each of the first frames include a first preamble and each of the second frames include a second preamble, and

the first and the second preambles for communications between a remote device and one of the retro-reflector devices is different than the first and the second preambles for communications between the remote device and at least one other of the retro-reflector devices.

15. The communication method of claim 2, wherein:

each of the first frames includes a first forward error correction code.

16. The communication method of claim 2, wherein:

each of the second frames include a forward error correction code

17. The communications method of claim 15, wherein:

each of the second frames include a second forward error correction code, and

in communications between a remote device and at least one of the retro-reflector devices, the first forward error correction codes are different than the second forward error correction codes.

18. The communication method of claim 1, the second frame includes desired future time information for receiving an input beam from the remote device.

19. The communication method of claim 1, wherein the second frame includes a desired data rate for sending data from the retro-reflector device.

20. The communication method of claim 1, wherein the second frame includes a desired data rate for receiving data.

21. The communication method of claim 6, further comprising:

including, in the second frame, the message having an amount of data that is limited based on the indication of the data rate.

22. The communication method of claim 2, wherein:

at least some of the respective second frames include a desired future time interval for receiving a frame in an input beam.

23. The communication method of claim 22, further comprising:

informing each of the retro-reflector devices of a scheduled time, based at least in part on the desired future time intervals, by sending an indication of a next time interval, to each of the retro-reflector devices, via an input beam.

24. A retro-reflector device comprising:

a receiving portion configured to receive an incoming beam from a device and to decode a first frame encoded in the incoming beam the first frame including an indication of a next time for the retro-reflector device to receive an incoming beam.

25. The retro-reflector device of claim 24, further comprising:

a reflecting portion configured to form a reflected beam by reflecting the incoming beam along a path closely aligned with a path of the incoming beam and to encode a second frame in the reflected beam.

26. The retro-reflector device of claim 25, wherein the first frame includes a data rate for communications between a device and the retro-reflector device, the data rate providing a limit on an amount of data that can be sent from at least one of the device to the retro-reflector device and the retro-reflector device to the device, over a given time period.

27. The retro-reflector device of claim 25, wherein the first frame includes an indication of an amount of data for a message between a device and the retro-reflector device.

28. The retro-reflector device of claim 25, wherein a transmission rate of data included in the second frame is determined by a data rate indication in the first frame.

29. The retro-reflector device of claim 25, wherein

an amount of data included in the second frame is determined by an amount of data indication in the first frame.

30. The retro-reflector device of claim 24, wherein the first frame includes an incoming message portion for a message from the device to the retro-reflector device.

31. The retro-reflector device of claim 25, wherein the second frame includes a desired future time interval for receiving the incoming beam.

32. The retro-reflector device of claim 25, wherein the first frame includes an incoming message portion for a message to the retro-reflector device and the second frame includes an outgoing message portion for a message from the retro-reflector device.

33. The retro-reflector device of claim 24, wherein:

the retro-reflector device is configured to enter a low-power mode after receiving the indication in the first frame, the retro-reflector device remaining in the low-power mode until approximately the next time.

34. The retro-reflector device of claim 25, wherein:

the receiving portion is configured to receive a first preamble included in the first frame.

35. The retro-reflector of claim 34, wherein:

the reflecting portion is configured to encode a second preamble in the second frame.

36. The retro-reflector of claim 35, wherein:

the first preamble is different than the second preamble.

37. The retro-reflector device of claim 25, wherein:

the receiving portion is configured to receive a first error correcting code included in the first frame.

38. The retro-reflector device of claim 25, wherein:

the reflecting portion is configured to encode a second error correcting code in the second frame

39. The retro-reflector device of claim 37, wherein:

the reflecting portion is configured to encode a second error correcting code in the second frame, and

the first error correcting code is different from the second error correcting code.

40. The retro-reflector device of claim 25, wherein the incoming beam and the reflected beam include light waves.

41. The retro-reflector device of claim 25, wherein the incoming beam and the reflected beam include radio frequency waves.

42. The retro-reflector device of claim 25, wherein the incoming beam and the reflected beam include acoustic waves.

43. The retro-reflector device of claim 40, wherein:

the retro-reflector device includes a cat's eye retro-reflector.

44. The retro-reflector device of claim 43, wherein:

the reflecting portion includes at least one quantum well, a surface of the at least one quantum well being configured to have varying reflectivity, such that the second frame may be encoded in the reflected beam by changing the reflectivity of at least one of the quantum wells while the incoming beam is hitting the one of the quantum wells.

45. The retro-reflector device of claim 44, wherein:

the at least one quantum well includes a positive-intrinsic-negative diode, such that the at least one quantum well is configured to detect the light waves.

46. A device configured to send an incoming beam to at least one retro-reflector device, the device comprising:

a transmitter configured to provide a carrier as an incoming beam to the at least one retro-reflector device and to encode a first frame onto the carrier; and

a receiver configured to receive and decode a reflected beam from the at least one retro-reflector device, the reflected beam including a second frame, wherein:

one of the first frame and the second frame includes medium access control information.

47. The device of claim 46, wherein;

the first frame includes time information indicating a next time when the device will direct the incoming beam to the at least one retro-reflector.

48. The device of claim 47, wherein:

the time information is derived from a schedule.

49. The device of claim 47, wherein:

the second frame includes a desired time period when the at least one retro-reflector device desires to transmit or receive data, and

the device is further configured to consider the desired time period before generating a new time information for a next first frame to be sent to the at least one retro-reflector.

50. The device of claim 46, wherein:

the first frame includes an indication of a limit of an amount of data permitted between the remote device and the at least one retro-reflector during a given time period.

51. The device of claim 50, wherein:

the indication of the limit pertains to incoming data from the device to the at least one retro-reflector.

52. The device of claim 50, wherein:

the indication of the limit pertains to outgoing data from the at least one retro-reflector to the device.

53. The device of claim 46, wherein:

the first frame includes a first preamble.

54. The device of claim 46, wherein:

the second frame includes a preamble.

55. The device of claim 53, wherein:

the second frame includes a second preamble, and

the first preamble is different than the second preamble.

56. The device of claim 46, wherein:

the first frame includes a first error correcting code.

57. The device of claim 56, wherein:

the second frame includes a second error correcting code, and

the first error correcting code is different than the second error correcting code.

58. The device of claim 46, wherein:

the second frame includes a second error correcting code.

59. A system for controlling communications, the system comprising:

a probe device configured to send a first frame modulated onto a carrier as an incoming beam; and

a plurality of retro-reflector devices, each of the retro-reflector devices being configured to receive the first frame, encode and modulate a second frame onto a reflected beam, and transmit the second frame to the probe device, wherein:

each of the retro-reflector devices is configured to encode and modulate the second frame onto the reflected beam, responsive to receiving the first frame in the incoming beam, and

one of the first frame and the second frame includes medium access control information.

60. The system of claim 59, wherein:

the first frame includes time information indicating when a respective one of the retro-reflector devices will next receive the incoming beam.

61. The system of claim 60, wherein:

the respective one of the retro-reflector devices is further configured to enter a low-power mode after receiving the time information and to remain in the low power mode for a period based on the time information.

62. The system of claim 59, wherein:

each of the retro-reflector devices is further configured to include, in a respective second frame, a next desired time for receiving another frame.

63. The system of claim 62, wherein:

the probe device is configured to collect the next desired times in the second frames from the retro-reflector devices, create a schedule based on the next desired times, and transmit a new time information in a frame to each respective one of the retro-reflector devices.

64. The system of claim 59, wherein:

the retro-reflector devices are configured to include a preamble in the second frame.

65. The system of claim 64, wherein:

the preamble from one of the retro-reflector devices is different than the preamble from at least one other of the retro-reflector devices.

66. The system of claim 59, wherein:

the retro-reflector devices are configured to include an error correcting code in the second frame.

67. The system of claim 66, wherein:

the error correcting code from one of the retro-reflector devices is different than the error correcting code from at least one other of the retro-reflector devices.

68. A retro-reflector device comprising:

means for receiving and decoding a first frame in an incoming beam from a remote device; and

means for forming a reflected beam by reflecting the incoming beam along a path closely aligned with a path of the incoming beam and for encoding a second frame in the reflected beam, wherein:

one of the first frame and the second frame includes medium access control information.

69. The retro-reflector device of claim 68, wherein:

the first frame includes time information indicating when the retro-reflector device is to receive a next incoming beam.

70. The retro-reflector device of claim 69, further comprising:

means for entering a low-power mode during scheduled periods of inactivity.

71. A machine-readable medium having instructions recorded thereon for at least one processor of a retro-reflector device, wherein when the instructions are executed by the at least one processor, the at least one processor is configured to:

receive an incoming beam from a remote device and decode a first frame included in the incoming beam, and

form a reflected beam by reflecting the incoming beam along a path closely aligned with a path of the incoming beam and encode a second frame in the reflected beam, wherein:

at least one of the first frame and the second frame includes medium access control information.

72. The machine-readable medium of claim 71, wherein:

the first frame includes time information regarding when the retro-reflector device will receive an incoming beam.

73. The machine-readable medium of claim 71, wherein the at least one processor is further configured to:

include, in the second frame, a future time interval indicating when the retro-reflector device desires to receive an incoming beam.

74. The machine-readable medium of claim 71, wherein the at least one processor is further configured to:

receive, in the first frame, a data rate for communications between the remote device and the retro-reflector device, the data rate providing a limit on an amount of data that can be sent from at least one of the remote device to the retro-reflector device and the retro-reflector device to the remote device, over a given time period.

75. The machine-readable medium of claim 72, wherein the at least one processor is further configured to:

cause the retro-reflector device to enter a low-power mode after receiving the time information in the first frame, the retro-reflector device remaining in the low-power mode for a period of time based on the time information.

76. The machine-readable medium of claim 71, wherein the at least one processor is further configured to:

receive a first preamble included in the first frame.

77. The machine-readable medium of claim 76, wherein that at least one processor is further configured to:

encode a second preamble in the second frame, the first preamble being different than the second preamble.

78. The machine-readable medium of claim 71, wherein the at least one processor is further configured to:

encode a preamble in the second frame.

79. The machine-readable medium of claim 71, wherein the at least one processor is configured to:

receive a first error checking code included in the first frame.

80. The machine-readable medium of claim 79, wherein the at least one processor is further configured to:

encode a second error checking code in the second frame, and

the first error checking code is different than the second error checking code.